

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

FIRST SEMESTER – NOVEMBER 2023

UPB 1502 – PLANT ANATOMY AND EMBRYOLOGY

Date: 06-11-2023

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

PART A

Answer the following, each within 50 words

(10 x 2 =20 marks)

1. What are sclereids?
2. Mention any two features of aerenchyma.
3. Distinguish between amphivasal and amphicribal bundles.
4. Define heart wood and sap.
5. What are trichomes?
6. Draw and label graminaceous stomata.
7. What is pollinia?.
8. What is tapetum?
9. Define double fertilization.
10. What is polyembryony?.

PART B

Answer the following, each within 500 words.

Draw diagrams and flowcharts wherever necessary.
marks)

(5 x 7 = 35

11a. Notes on the features of collenchyma (5 marks). Notes on its types (2 marks).

or

b. Describe briefly about the special types of parenchyma. Add a note on their functions.

12a. Write notes on the various types of vascular bundles.

or

b. Give an account on the anatomy of dicot stem.

13a. List and explain the different types of stomata in dicots.

or

b. Describe the anatomical features of monocot root.

14a. Explain the internal structure of a young anther.

or

b. Write notes on the structure of a pollen grain and male gametophyte.

15a. Explain the process of fertilization in plants.

or

b. Describe about the cellular and nuclear types of endosperm.

PART C

Answer any three of the following, each within 1200 words.

Draw diagrams and flowcharts wherever necessary.

(3 x15 = 45 marks)

16. Explain the structure of xylem and phloem.
17. Write detailed notes on the anatomy of *Bignonia* stem and *Aristolochia* stem.
18. Explain the anatomy of dicot and monocot leaf.
19. Discuss about the contrivances to promote cross pollination. Add a note on entomophily.
20. Summarize the structure of dicot and monocot embryo

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